RECLAMATION
Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

Lower Tule Irrigation District
Tule River Intertie Project

FONSI-09-73

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U.S. Department of the Interior
Bureau of Reclamation
South-Central California Area Office

February 2010

Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the U.S. Bureau of Reclamation (Reclamation), has determined that the awarding of an American Recovery and Reinvestment Act of 2009 Water Marketing and Efficiency grant (ARRA grant) and a Reclamation Challenge Grant Program Water Marketing and Efficiency Grant (Challenge grant) to Lower Tule River Irrigation District (LTRID) would not significantly affect the quality of the human environment and an environmental impact statement is not required. This Finding of No Significant Impact is supported by Reclamation's Draft Environmental Assessment (EA) Number EA-09-73, *Lower Tule Irrigation District Tule River Intertie Project*, and is hereby incorporated by reference.

Background

The American Recovery and Reinvestment Act of 2009 (ARRA) is an economic stimulus package, worth up to $787 billion, which was signed into law on February 17, 2009 for the purpose of stimulating the United States economy during a significant economic downturn. The Department of the Interior has been tasked with managing $3 billion in investments as part of ARRA in order to jumpstart the economy, create or save jobs, and address long-neglected challenges. Of the $3 billion, $1 billion will be invested in water infrastructure across the United States by the Bureau of Reclamation (Reclamation). Out of the $1 billion, $260 million will go to projects in California that will expand water supplies, repair aging water infrastructure, and mitigate the effects of a devastating drought the state is currently experiencing. An additional $135 million is available for ARRA-funded grants for water reuse and recycling projects (U.S. Department of the Interior 2009). Through Reclamation's Water Marketing and Efficiency Challenge grant program (Challenge grant), Reclamation provides 50/50 cost share funding for projects approved under the grant, some of which are ARRA-funded.

LTRID, located in Tulare County, California, was formed in 1950 in order to provide a reliable and good quality supplemental surface water supply to its landowners who had previously met their water needs solely by groundwater pumping. The surface water supply for the district is drawn from pre-1914 Tule River water rights and contracts with Reclamation for Central Valley Project (CVP) water from the Friant Division.

Success Dam is an earth-filled dam located near Porterville, California that has historically been used by LTRID to store its Tule River water in Success Reservoir. In 1999, The U.S. Army Corps of Engineers (Corps) conducted a seismic study on alluvium deposits downstream of the dam and found them to be seismically unstable. Further research conducted by the Corps found Success Dam to be seismically unstable. Consequently, in 2006, the maximum storable volume behind the dam was reduced to 35 percent of full pool storage. This reduction has significantly diminished the amount of storage available for LTRID's Tule River surface water supplies.

At present, LTRID infrastructure enables Tule River water to be delivered to two thirds of the district from their points of diversion at Wood Central Ditch and #4 Canal. The remaining third,

south of the Wood Central Ditch, receives CVP water from the Friant-Kern Canal but can not receive Tule River water. Up until now, due to a series of dry years, the lack of storage at Success Dam has not affected LTRID's use of Tule River water within the district. However, in the event of a wet year, LTRID would not be able to store or use their Tule River water beyond what could be currently delivered to two-thirds of the district.

In 2009, LTRID applied to Reclamation for an ARRA-funded Challenge grant and a non-ARRA-funded Challenge grant for the district's proposed Tule River Intertie Project.

Reclamation's finding that implementation of the proposed action will result in no significant impact to the quality of the human environment is supported by the following factors:

FINDINGS

Water Resources

Under the Proposed Action, LTRID will have the infrastructure to deliver Tule River water to the southeastern third of the district which currently cannot receive it. This will enable LTRID to continue to beneficially use their Tule River water rights within their district. The additional source of surface water will also reduce the southeastern area's dependence on groundwater supplies for meeting irrigation demands, thereby, potentially reducing the amount of groundwater needed by landowners within this area. The Proposed Action will use an existing point of diversion at the Wood Central Ditch. The existing Tule River water rights will not be modified in any way through the Proposed Action and the amount of water available to the district will not be modified. Therefore, there will be no significant impacts to water resources as a result of the Proposed Action.

Biological Resources

Proposed Action effects will include temporary and permanent effects to the landscape that may affect San Joaquin kit fox. Temporary disturbance to lands will occur during the period of construction, including additional vehicular traffic, construction noise, and worker activity. Additionally, as a consequence of the Proposed Action, approximately 31 acres of potential San Joaquin kit fox habitat will be permanently altered, primarily converting agricultural habitat into canal habitat. A variety of agricultural habitats will be affected, but alfalfa and tree crops will be most affected. Coincident with the construction of the Intertie Canal, periodic maintenance will be required on the Intertie Canal, which will be the responsibility of LTRID as the owner/operator of the canal.

Under the Proposed Action, the Intertie Canal will be constructed primarily within an existing access road rights-of-way. This is a mostly disturbed area and is unlikely to be used by the San Joaquin kit fox for potential foraging, denning, and movement corridors. With implementation of pre-construction surveys and avoidance and minimization measures, as described in EA-09-73, the effect of the Proposed Action on the kit fox is expected to be minimal. On November 13, 2009, Reclamation requested concurrence from the U.S. Fish and Wildlife Service (Service) that the effect is not likely to adversely affect this species. On February 2, 2010, the Service concurred with Reclamation that the Proposed Action may affect but is not likely to adversely affect San Joaquin kit fox.

The modification of culverts and bridges could affect migratory birds such as swallows, and land disturbance could affect burrowing owls. However, with implementation of avoidance and minimization measures described in the EA, no take of migratory birds is anticipated and effects to other biological resources would be minor.

Cultural Resources

The Proposed Action will result in the issuance of Federal appropriations through an ARRA and Challenge grant. These funds will be used to implement actions on the ground that have the potential to effect historic properties. Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on October 29, 2009 seeking their concurrence on a finding of no adverse effect to historic properties pursuant to the regulations at 36 CFR Part 800.5(b). In addition, Reclamation has consulted with Tule River Reservation Indian Tribe requesting any information regarding sites of religious or cultural significance or information on historic properties. Reclamation has received no response to its request from the Tule River Reservation. SHPO concurred with Reclamation's finding of effect on November 10, 2009. Therefore, the Proposed Action will have no significant impacts to cultural resources.

Indian Trust Assets

Under the Proposed Action, Reclamation will award LTRID an ARRA and Challenge grant for their Tule River Intertie Project which consists of modifications to the Wood Central Ditch and construction of a new Intertie Canal from the Wood Central Ditch to the Casa Blanca Canal. There are no tribes possessing legal property interests held in trust by the United States in the land involved with this action. The nearest Indian Trust Asset is 16.6 miles east of the Proposed Action area; therefore, there will be no significant affect to Indian Trust Assets.

Land Use

The Proposed Action is consistent with the County of Tulare General Plan and Zoning Ordinance and will therefore not require a change to the existing land use or zoning designations. Modifications to the Wood Central Ditch will not change existing land uses. The construction of the Intertie Canal will require a 95-foot wide right-of-way within a portion of existing access road and a portion of existing agricultural fields. The portion of agricultural fields used for the Intertie Canal will be permanently removed from active production. This change in use from active agricultural to supportive agricultural is considered compatible with lands classified as Prime Farmland, Farmland of Statewide Importance, and lands under a Williamson Act Contract and will not change its land use designation. The Proposed Action will provide additional sources of surface water for irrigation within the southeastern portion of LTRID ensuring continued agricultural land use. Consequently, the Proposed Action will maintain current land uses and will have no significant impacts to land use.

Socioeconomic Resources

The Proposed Action will reduce water costs to landowners as the Tule River water would cost less than CVP water or pumped groundwater. Construction activities will also have a slight beneficial impact as additional, but temporary, jobs are created. Consequently, the availability of a cheaper, reliable surface water resource will have slight beneficial impacts to socioeconomic resources. Therefore, there will be no significant impacts to socioeconomic resources.

Environmental Justice

The Proposed Action includes the construction of a new Intertie Canal and modifications to Wood Central Ditch in order to deliver Tule River water to an area that currently does not receive it. This water will be available at a cheaper rate than CVP water or pumped groundwater as previously discussed. The Proposed Action will not cause dislocation, changes in employment, or increase flood, drought, or disease nor will it disproportionately impact economically disadvantaged or minority populations. There may be a slight beneficial impact to Environmental Justice as a result of the Proposed Action due to the additional infrastructure for irrigation within the southeastern portion of LTRID. Therefore, the Proposed Action will have no significant impacts to Environmental Justice.

Air Quality

Operation of LTRID's water distribution system will not contribute to criteria pollutant emissions, as water distribution is largely a passive process. However, emissions will be associated with the modifications to Wood Central Ditch and the construction of the Tule River Intertie. Air quality emissions for construction activities associated with the delayed project were calculated with the Sacramento Air Quality Management District's *Road Construction Model Version 6.3-2*. Calculated emissions are well below the de minimus thresholds for the San Joaquin Valley Air Pollution Control District; therefore, there will be no significant air quality impacts associated with the Proposed Action and a conformity analysis is not required.

Global Climate Change

The impact that Greenhouse gases (GHG) emissions have on global climate change is not dependent on whether they were generated by stationary, mobile, or area sources, or whether they were generated in one region or another. Implementation of the Proposed Action will be expected to result in a slight temporary net increase in GHG emissions associated with short-term construction activities. Although operation of LTRID canals are done via gravity and will not result in GHG emissions, there could be a slight net increase of GHG emissions associated with increased maintenance activities of the new Intertie Canal. While any increase in GHG emissions will add to the global inventory of gases that will contribute to global climate change, the Proposed Action will result in only a very slight increase in GHG emissions from temporary or existing sources. Therefore, there will be no significant impacts to global climate change.

Cumulative Impacts

The Proposed Action will create the infrastructure to deliver Tule River water to an area within LTRID that cannot receive it at this time. The use of this water will be to maintain and grow crops on existing agricultural lands. The Proposed Action will maintain existing land uses and will not contribute to cumulative changes or impacts to land uses or planning.

LTRID already receives CVP Friant water from the Friant-Kern Canal and private owners' pump groundwater for irrigation. The addition of Tule River water would increase the amount of surface water available for irrigation thereby decreasing the amount of groundwater needed to meet irrigation demands. This will potentially help reduce additional overdraft and the chance of subsidence within the district. It will also increase the amount of surface water available for

groundwater recharge due to irrigation. This could provide slight beneficial cumulative impacts to groundwater levels.

The Proposed Action was found to have no impact on biological resources, cultural resources, Indian Trust Assets, and air quality and therefore there is no contribution to cumulative impacts on these resources areas. Slight beneficial impacts to land use, socioeconomics, and environmental justice are within historical variations and would not contribute to cumulative impacts. Overall there will be no significant cumulative impacts caused by the Proposed Action.

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Lower Tule River Irrigation District
Tule River Intertie Project

EA-09-73

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South Central California Area Office
Fresno, California

February 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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List of Acronyms and Abbreviations

AB32	California Assembly Bill 32
Act	American Recovery and Reinvestment Act of 2009
AF	Acre-foot
AFY	Acre-foot per year
APE	Area of Potential Effect
ARRA grant	American Recovery and Reinvestment Act of 2009 Water Marketing and Efficiency Challenge grant
CAA	Clean Air Act
CDC	California Department of Conservation
CFR	Code of Federal Regulations
cfs	Cubic feet per second
Challenge Grant	Challenge Grant Program Water Marketing and Efficiency Grant
CNDDB	California Natural Diversity Database
CO	Carbon monoxide
CO_2	Carbon dioxide
Corps	U.S. Army Corps of Engineers
CVP	Central Valley Project
CWA	Clean Water Act
Delta	San Joaquin-Sacramento River Delta
DWR	California Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
FKC	Friant-Kern Canal

FWCA	Fish and Wildlife Coordination Act
GHG	Greenhouse gases
IS	Initial Study
ITA	Indian Trust Asset
LTRID	Lower Tule River Irrigation District
MBTA	Migratory Bird Treaty Act
MDB&M	Mount Diablo Base and Meridian
MH_3	Methane
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	Nitrous oxide
PM_{10}	Inhalable particulate matter
PVC	Polyvinyl chloride
RCB	Reinforced concrete box
RCP	Reinforced concrete pipe
Reclamation	Bureau of Reclamation
RGRCP	Rubber gasket reinforced concrete pipe
ROG	Reactive organic gases
ROW	Rights-of-way
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWP	State Water Project
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile organic compounds
Williamson Act	Land Conservation Act of 1965

Section 1 Purpose and Need for Action

1.1 Background

The American Recovery and Reinvestment Act of 2009 (ARRA) is an economic stimulus package, worth up to $787 billion, which was signed into law on February 17, 2009 for the purpose of stimulating the United States economy during a significant economic downturn. The Department of the Interior has been tasked with managing $3 billion in investments as part of ARRA in order to jumpstart the economy, create or save jobs, and address long-neglected challenges. Of the $3 billion, $1 billion will be invested in water infrastructure across the United States by the Bureau of Reclamation (Reclamation). Out of the $1 billion, $260 million will go to projects in California that will expand water supplies, repair aging water infrastructure, and mitigate the effects of a devastating drought the state is currently experiencing. An additional $135 million is available for ARRA-funded grants for water reuse and recycling projects (U.S. Department of the Interior 2009). Through Reclamation's Water Marketing and Efficiency Challenge grant program (Challenge grant), Reclamation provides 50/50 cost share funding for projects approved under the grant, some of which are ARRA-funded.

The Lower Tule River Irrigation District (LTRID), located in Tulare County, California, was formed in 1950 in order to provide a reliable and good quality supplemental surface water supply to its landowners who had previously met their water needs solely by groundwater pumping (Figure 1). The surface water supply for the district is drawn from pre-1914 Tule River water rights and contracts with Reclamation for Central Valley Project (CVP) water from the Friant Division and Cross Valley Exchange Program.

Success Dam is an earth-filled dam located near Porterville, California that has historically been used by LTRID to store its Tule River water in Success Reservoir. In 1999, The U.S. Army Corps of Engineers (Corps) conducted a seismic study on alluvium deposits downstream of the dam and found them to be seismically unstable. Further research conducted by the Corps found Success Dam to be seismically unstable. Consequently, in 2006, the maximum storable volume behind the dam was reduced to 35 percent of full pool storage. This reduction has significantly diminished the amount of storage available behind the dam for LTRID's Tule River surface water supplies.

At present, LTRID infrastructure enables Tule River water to be delivered to two thirds of the district from their points of diversion at the Wood Central Ditch and #4 Canal (Figure 1.4-1). The remaining third, south of the Wood Central Ditch, receives CVP water from the Friant-Kern Canal (FKC) but can not receive Tule River water. Up until now, due to a series of dry years, the lack of storage at Success Dam has not affected LTRID's use of Tule River water within the district. However, in the event of a wet year, LTRID would not be able to store or use their Tule River water beyond what could be delivered to two-thirds of the district.
In September 2007, LTRID prepared an Initial Study (IS) and Negative Declaration (ND) pursuant to the California Environmental Quality Act for their Tule River Intertie Project which entails modifications to the Wood Central Ditch and the construction of a new earthen

Intertie Canal. The purpose of the project was to enable delivery of Tule River water to the remaining portions of the district that have been unable to receive it. This additional source of water would free up to 2,000 AF of CVP water that could then be transferred to Fresno County Waterworks #18. The IS/ND found that the project would not have significant effect on the environment and both documents are hereby incorporated by reference (LTRID 2007).

In 2009, LTRID applied to Reclamation for an ARRA-funded Challenge grant and a non-ARRA-funded Challenge grant for the district's proposed Tule River Intertie Project.

1.2 Purpose and Need

The purpose of the Proposed Action is to increase delivery of Tule River water within the district in order to offset some of the water supply impacts from the diminished storage behind the seismically unstable Success Dam and improve water management on the eastern half of the district.

1.3 Scope

This Environmental Assessment (EA) has been prepared to examine the potential for impacts on environmental resources as a result of funding the construction and operation of the facilities identified as the Proposed Action, which include the construction components for the new Tule River Intertie and modifications to the Wood Central Ditch.

In June 2007, Reclamation received a request from LTRID for a long-term annual transfer of up to 2,000 acre-feet (AF) of their CVP allocation to Fresno County Waterworks #18 for the Friant Ranch development project south of Millerton Lake. The approval and environmental analysis of the long-term transfer between LTRID and Fresno County Waterworks #18 is currently being done by Reclamation under EA-06-81, *Fresno County Waterworks District Number 18 Service Area Boundary Change, Improvements to Existing Pipelines, and Long-term Water Transfer with Lower Tule River Irrigation District.* Transfer of 2,000 AF of LTRID's CVP allocation is not part of this Proposed Action and is currently undergoing separate environmental analysis. Separate environmental analysis is also currently underway by the U.S. Army Corps of Engineers for the development of Friant Ranch.

1.4 Potential Issues

The potentially affected resources in the project vicinity include:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trusts Assets
- Environmental Justice
- Socioeconomic Resources
- Air Quality
- Global Climate Change
- Cumulative Impacts

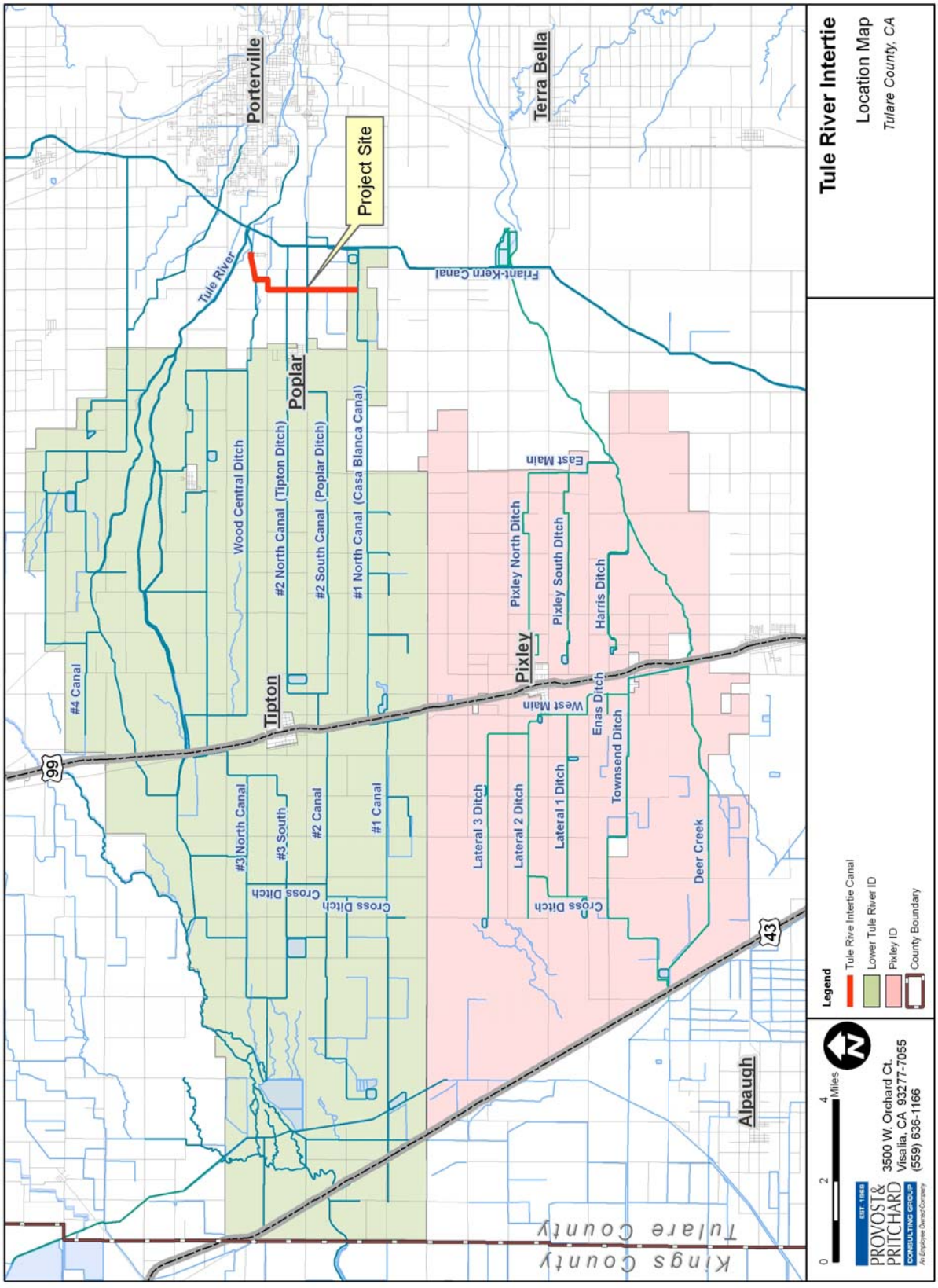

Figure 1.4-1 Lower Tule River Irrigation District Location Map

Section 2 Alternatives Including the Proposed Action

2.1 Proposed Action

Under the Proposed Action, Reclamation would award a 2009 ARRA-funded Challenge grant and a non-ARRA-funded Challenge grant for LTRID's Tule River Intertie Project which would include modifications to the Wood Central Ditch, construction of two new turnouts, replacement of existing road crossings, and construction of the new Intertie Canal (see Figure 2.2-1). LTRID has acquired approximately 35 acres of right-of-way (ROW) for construction of the Intertie Canal. The Proposed Action would enable delivery of Tule River water from the Wood Central Ditch to lands served by the Tipton Ditch, Poplar Pipeline, and the Casa Blanca Canal. Tule River water would enter LTRID's facilities from an existing point of diversion on Wood Central Ditch. No work would be done within the Tule River.

2.1.1 Wood Central Ditch Modifications

Modifications to Wood Central Ditch would begin within the ditch itself near the Tule River point of diversion and continue westward for approximately 4,100 linear feet (Figures 2.2-1 and 2.2-2). Capacity of the existing earthen Wood Central Ditch and associated structures within this section would be increased to convey up to 600 cubic feet per second (cfs). Preliminary project designs for these modifications can be found in Appendix B. Specific modifications to Wood Central Ditch would include the following (see Figure 2.2-2):

- Reshaping of approximately 4,100 linear feet of the Wood Central Ditch channel for a consistent depth of 10 feet and side slope of 1.5 to 1. Modifications of the channel would begin at the Tule River point of diversion and continue westward along the canal within an existing 70-foot wide easement (see PP1-PP4 in Appendix B).

- Realignment of the Wood Central Ditch diversion channel from the Tule River point of diversion to Dunning Crossing. This would also include the installation of an approximately 49-foot long by 13-foot tall retaining wall connected to an existing grade control structure. The realigned diversion channel would also have three sections of six-inch thick concrete liner installed for bank stabilization (see ST1 in Appendix B).

- Replacement of Dunning Crossing with a new open-span bridge. The existing bridge would be demolished and removed from site. A temporary dirt access road would be constructed west of Dunning Crossing for use during its replacement and removed once construction of the new bridge is complete. A 25-foot wide section of six-inch thick rip-rap would be placed within the canal on the western side of the new bridge for bank stabilization (see PP1 and ST2-ST3 in Appendix B).

- Construction of a new, approximately 45-foot wide, Replogle flume west of Dunning Crossing. Construction of the new flume would be within the existing prism of the

Wood Central Ditch. This would also include installation of a 36-inch diameter stilling well on the southern side of the new flume. A one-foot thick, five-foot wide rip-rap pad would be placed on both sides of the new flume for bank stabilization (see PP1 and ST4 in Appendix B).

- Demolition and removal of an existing farm crossing over the Wood Central Ditch west of Road 208. Bridge materials would be removed from site for disposal (see PP2 in Appendix B).

- Modifications to the existing County Road 208 culvert to include construction of new concrete headwall extensions and concrete inlet and outlet transitions. An existing turnout structure on the northwest side of the culvert would be relocated slightly east of its current position (see PP3 and ST5-ST6 in Appendix B).

- Modification of an existing concrete three bay weir to add two new weir bays. The new five-bay weir would be approximately 31 feet wide with each new bay approximately five feet wide. Construction activities would include removing approximately 20-foot wide sections of concrete liner from the north and south side of the weir. The north and south wing walls would also be removed. A 15-foot wide section of six-inch thick concrete liner would be installed on the west side of the modified weir. Additionally, a 10-foot wide section of concrete liner would be installed on the east side of the weir. An existing catwalk would be removed and replaced with an eight-inch thick, 4-foot long concrete catwalk. The new catwalk would be raised 2.5 feet from the existing catwalk's current position. A one-foot thick, 10-foot wide rip-rap pad would be placed adjacent to the concrete liner on both sides of the modified weir for bank stabilization (see PP3 and ST7-ST8 in Appendix B).

- Construction of an approximately 50-foot wide, 81-foot long new diversion structure between Wood Central Ditch and the new Intertie Canal west of Road 208. The section of the new diversion structure on the Wood Central Ditch side would be approximately 27 feet wide and 14 feet long with four approximately six-foot wide bays and a 27-foot long catwalk. The bays would connect to an approximately 22-foot long by 20-foot wide section that consists of two six-foot by nine-foot wide concrete boxes that extend to the Intertie Canal side of the diversion structure. The section of the diversion structure on the Intertie Canal side would be approximately 25 feet wide and 14 feet long. Engineered fill would be placed over the concrete boxes to create an operations and maintenance access road. An approximately 16-foot wide section of six inch think concrete liner would be placed on both sides of the diversion structure for bank stabilization (see PP4 and ST9-ST10 in Appendix B).

Construction activities for the Wood Central Ditch would take place in portions of the following Tulare County parcels in Section 30 of Township 21 South, Range 27 East, Mount Diablo Base and Meridian (MDB&M) and Sections 25 of Township 21 South, Range 26 East, MDB&M:

240-190-045	240-190-037	240-190-042	236-140-055
240-190-024	240-190-026	236-140-011	236-140-061
240-190-038	240-190-033	236-140-064	--

Construction activities for modifications to Wood Central Ditch would be accomplished with large earthmoving equipment appropriate for this type of work, such as: graders, scrapers, loaders, long-boom excavators, backhoes, water trucks, hauling trucks, dump trucks, concrete trucks, and pumper trucks.

2.1.2 Construction of the Intertie Canal

The proposed earthen Intertie Canal would extend approximately 2.75 miles from the Wood Central Ditch south towards the Casa Blanca Canal (see Figure 2.2-1). The Intertie Canal and associated structures could convey up to 300 cfs of water from the Wood Central Ditch south to Avenue 148 (Tipton Canal alignment). South of Avenue 148 to the Casa Blanca Canal, flow rates within the Intertie Canal would be decreased to 150 cfs. Preliminary project designs for the construction of the new Intertie Canal can be found in Appendix B.

Specific construction details for the Intertie Canal would include the following:

- Removal of approximately 35 acres of existing vines, trees, and row crops and modifications of existing field irrigation systems. Removal of existing crops and modifications to irrigation systems would occur after the 2009 fall harvest once environmental compliance is complete (see PP4-PP16 in Appendix B).

- The construction of the Intertie Canal would generally have a 95-foot wide ROW located largely along an alignment that is currently dirt access roads. There would be a permanently disturbed area from the construction of the canal of approximately 31 acres. This disturbed area would include approximately one acre of removed dirt access road, 25 acres of removed planted agricultural fields to the east of the dirt access road, and five acres of unplanted agricultural fields to the east of the dirt access road (PP4-PP16 in Appendix B).

- The earthen Intertie Canal channel would generally be between 12 to 15 feet wide at the bottom and approximately 10 feet deep with 2 to 1 inner-side slopes. A15-foot wide dirt access road would also be constructed on both sides of the canal for operation and maintenance (see PP4-PP16 in Appendix B).

- Construction of a new 13-foot wide concrete turnout on the eastern side of the Intertie Canal to replace an existing turnout north of Avenue 152. The existing structure would be removed from the site for disposal. The new turnout would be connected to a 24-inch diameter polyvinyl chloride (PVC) pipe that would run under the Intertie Canal and connect to an existing terminal basin on the western side of the canal (see PP5a-PP5b and ST11).

- Construction of an approximately 18-foot wide, 200-foot long underground culvert at Avenue 152. The culvert would consist of a double-barreled, approximately 84-inch diameter, Rubber Gasket Reinforced Concrete Pipe (RGRCP). The concrete inlet and

outlet structures of the culvert would be approximately 25 feet wide, 12 feet deep and 17 feet tall. Approximately 105 feet of the RGRCP would be jack-and-bored across Avenue 152. No carrier pipe would be used for the jack-and bored pipe. Avenue 152 would be returned to its original state once construction of this section is complete. There would also be an approximately 96-foot long section south of Avenue 152 that would be open-cut for direct burial installation. A 10-foot wide section of six-inch thick concrete liner would be installed on the north side of Avenue 152. Additionally, a 15-foot wide section of concrete liner would be installed on the south side of Avenue 152 (see PP5a-PP5b and ST12 in Appendix B).

- Three existing buildings south of Avenue 152 would be demolished and removed from site for disposal. An existing power pole north of Avenue 152 would be relocated to the western side of the new canal. Power service to an existing agricultural well south of Avenue 152 would be relocated east and south of the new canal (see PP5a in Appendix B).

- Construction of an approximately 116-foot long by 25-foot wide, double-barreled, 84-inch diameter RGRCP underground siphon and culvert at Avenue 148 for the Intertie Canal. The concrete inlet and outlet structures would be approximately 36 feet wide, 12 feet deep and 16 feet tall. A 10-foot wide section of six-inch thick concrete liner would be installed within the Intertie Canal on the north side of the Tipton Ditch diversion structure. Additionally, a 15-foot wide section of concrete liner would be installed on the south side of Avenue 148 crossing. An approximately 50-foot long by 18-foot wide section of Avenue 148 would be open cut for installation of the siphon. Avenue 148 would be returned to its original state once construction of this section is complete (see PP8 and ST13-ST16 in Appendix B).

- Construction of an approximately 94-foot long by 12-foot wide, double-barreled, 60-inch diameter RGRCP underground siphon and culvert connecting the east and west sides of Tipton Ditch under the Intertie siphon. The concrete inlet and outlet structures would be approximately 39 feet wide, 12 feet deep and 16 feet tall. An existing irrigation structure would be removed from the west side of Tipton Ditch and replaced with a four-bay weir. A new 18-inch diameter turnout would be installed at the weir and connected to an 18-inch diameter rubber gasket PVC pipe that would reconnect an existing irrigation pipe to the west side of Tipton Ditch. A new 84-inch diameter RGRCP diversion structure from the north side of the Intertie Canal to the northwest side of Tipton Ditch would also be installed. A 10-foot wide section of six-inch thick concrete liner would be installed on the east side of the Tipton diversion structure and an approximately 40-foot wide section would be installed on the west side (see PP8 and ST13 in Appendix B).

- Construction of an approximately 21-foot by 24-foot underground culvert at the Avenue 146 alignment. The culvert would consist of a double, approximately 9-foot by 6-foot rectangular Reinforced Concrete Box (RCB). The Intertie Canal crossing at Avenue 146 would be 24 feet wide in order to facilitate local farm equipment crossing (see PP9 and ST17 in Appendix B).

- Construction of an approximately 112-foot by 22-foot culvert at Highway 190. The culvert would consist of a double, approximately 9-foot by 6-foot rectangular RCB. Concrete inlet and outlet structures would be approximately 25 feet wide, 12 feet deep and 17 feet tall. A 10-foot wide and 15-foot wide, six inch thick concrete liner would be installed north and south of Highway 190, respectively. An approximately 30-foot long by 40-foot wide section of Highway 190 would be open cut for installation of the RCB. Traffic control measures and night lighting would be implemented on the north and south side of Highway 190 during construction activities. Highway 190 would be returned to its original state once construction of this section is complete (see PP11 and ST18-ST20c in Appendix B).

- Installation within the Poplar Pipeline of approximately 50 feet of 42-inch diameter reinforced concrete pipe (RCP) below the RCB culvert at Highway 190. A new 36-inch diameter RGRCP diversion structure from the northwest side of the Intertie Canal to the Poplar Pipeline east of the canal would also be installed (see PP11 and ST18-ST19 in Appendix B).

- Construction of an approximately 21-foot by 24-foot underground culvert at the Avenue 140 alignment. The culvert would consist of a double, approximately 9-foot by 6-foot rectangular RCB. The Intertie Canal crossing at Avenue 140 would be 24 feet wide in order to facilitate local farm equipment crossing. An existing tailwater sump and gas service pipeline south of Avenue 140 would be relocated out of the canal prism and reconnected (see PP13 and ST21).

- Construction of an approximately 56-foot long by 17-foot wide, double-barreled, 84-inch diameter RGRCP underground culvert at Avenue 136 for the Intertie Canal. Concrete inlet and outlet structures would be approximately 25 feet wide, 12 feet deep and 12 feet tall. A 10-foot wide and 15-foot wide, six-inch thick concrete liner would be installed north and south of Avenue 136, respectively. An approximately 36-foot long by 17-foot wide section of Avenue 136 would be open cut for installation of the siphon. Avenue 136 would be returned to its original state once construction of this section is complete (see PP15 and ST22 in Appendix B).

- Construction of an approximately 22-foot long by 20-foot wide, double-barreled, 72-inch diameter RGRCP underground culvert for the termination of the Intertie Canal at the Casa Blanca Canal. The concrete outlet structure of the Intertie Canal would be approximately 36 feet wide, 12 feet deep and 12 feet tall. A four-foot wide steel catwalk would be installed across the outlet structure for operations and maintenance. A 10-foot wide section of six-inch thick concrete liner would be installed north of the outlet structure. The inlet structure within the Casa Blanca Canal would be approximately 22-foot wide and would fill the prism of the Casa Blanca Canal. An approximately 21-foot by 23-foot section of six-inch thick concrete liner would be installed on the southern bank of the Casa Blanca Canal for erosion protection (see PP16 and ST23-ST25 in Appendix B).

- An existing three-bay weir would be removed from the Casa Blanca Canal and relocated approximately 160 feet east of its current location. The section of the canal

where the weir was removed would be re-graded and six-inch thick rip-rap would be installed for bank stabilization. The west side of the relocated weir would have an approximately 33-foot by 20-feet section of six-inch thick concrete liner installed for bank stabilization. The eastern side of the weir would have an approximately 33-foot by 15-foot section installed. An approximately 18-foot long, eight-inch thick concrete catwalk would be installed for operation and maintenance (see PP16 and ST23 and ST26 in Appendix B).

- An existing irrigation stand and pipeline on the north side of Casa Blanca Canal would be connected to a new 60-inch RCP capstand. From the capstand, new approximately 160-feet of 18-inch diameter rubber gasket PVC pipeline would be installed underground parallel to the Casa Blanca Canal on its north side. This pipeline would run under the Intertie Canal RGRCP and connect into the relocated Casa Blanca Canal weir. Existing pipe connected to the relocated weir would be excavated and removed on both sides of the Casa Blanca Canal. Approximately 170 feet of 18-inch diameter rubber gasket PVC pipeline would be installed on the southern side of the Casa Blanca Canal from the relocated weir to a new 60-inch RCP capstand south of the weir's original location (see ST23, ST24, and ST26 in Appendix B).

The proposed Intertie Canal would be placed in portions of the following Tulare County parcels:

236-140-064	236-150-009	236-160-011	302-020-009
236-140-062	236-150-005	302-060-004	--
236-150-010	236-160-003	302-060-017	--

Construction activities for the Intertie Canal would be accomplished with large earthmoving equipment appropriate for this type of work such as graders, scrapers, loaders, long-boom excavators, backhoes, water trucks, hauling trucks, dump trucks, concrete trucks, cranes, and pumper trucks.

The construction window would begin as soon as National Environmental Policy Act (NEPA) compliance is completed, starting with construction of facilities in existing canals. Also, as access becomes possible to harvested fields, existing vegetation would be removed from the Proposed Action area. Field irrigation systems would also be removed and repaired as per landowner agreements. Within eight months after NEPA compliance is accomplished, construction of the earthen channel, the Intertie Canal culverts and crossing, and the modifications to the Wood Central Ditch are expected to be completed.

2.1.3 Environmental Commitments/Best Management Practices

Under the Proposed Action the following environmental commitments would be applied:

1. Pre-construction surveys for cliff swallows at the Road 208 culvert. If nesting swallows are identified during the survey, avoidance of any disturbance to nests would be required until the conclusion of the breeding season. Because construction impacts would likely occur after nesting has been initiated, to preclude effects to these

migratory birds (e.g. cliff swallows) which could nest on bridge structures, appropriate measures must be taken to avoid their take. Exclusion netting or other exclusion devices can be erected before the typical nesting season begins and kept in place through the potential nesting season or until work on the structures is completed, whichever is later, so that take of migratory birds is precluded. The California Department of Fish and Game considers February 15 to September 1 to be the swallow nesting season, though this may vary with latitude. The U.S. Fish and Wildlife Service (USFWS) guidance on nesting birds, including in the case of colonial-nesting birds such as cliff swallows provides that empty nests may only be destroyed until such time as one egg is laid in one or more nests in the colony. At that time, nest destruction is no longer permitted and such conduct would be considered take and subject to penalty under the Migratory Bird Treaty Act (MBTA); take of migratory birds is not permitted. USFWS Guidance shall be implemented to avoid take of migratory birds such as swallows that may attracted to nesting at bridges and crossings that will be affected by the project (see Appendix D). While netting would preclude nesting and enable work to proceed without interruption, if netting is not applied and an egg is laid, destruction of any nest in the colony would be considered illegal take under the MBTA.

2. Pre-construction surveys for burrowing owls are being conducted under the California Environmental Quality Act permitting. Protocols found in Appendix E would be followed, enabling avoidance of take.

3. San Joaquin kit fox pre-activity surveys prior to any construction activity. Protocols found in Appendix F would be followed.

2.2 No Action Alternative

Under the No Action Alternative, Reclamation would not award a 2009 ARRA-funded Challenge grant and a non-ARRA-funded Challenge grant for LTRID's Tule River Intertie Project which would delay the project. The timeline for the project without federal funding is unknown at this time; however construction of the project without federal funding is expected to be done in a similar manner as described under the Proposed Action. LTRID prepared an IS/ND for the Tule River Intertie Project in which they determined that there were "no significant impacts" as a result of the Tule River Intertie Project (LTRID 2007). Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority.

Without construction of the project, LTRID would continue to serve landowners through their existing infrastructure and facilities. Lower Tule River water would continue to be delivered to two-thirds of the district via their Wood Central Ditch and #4 Canal. Any LTRID Tule River water that could not be used within the district boundaries or stored behind Success Dam would not be able to be put to beneficial use within LTRID and would flow down the Tule River past their existing diversion point. Areas served by the Tipton Ditch, Poplar Pipeline, and Casa Blanca Canal would continue to receive CVP water from the FKC.

Landowners within the district would continue to pump groundwater to meet their water needs.

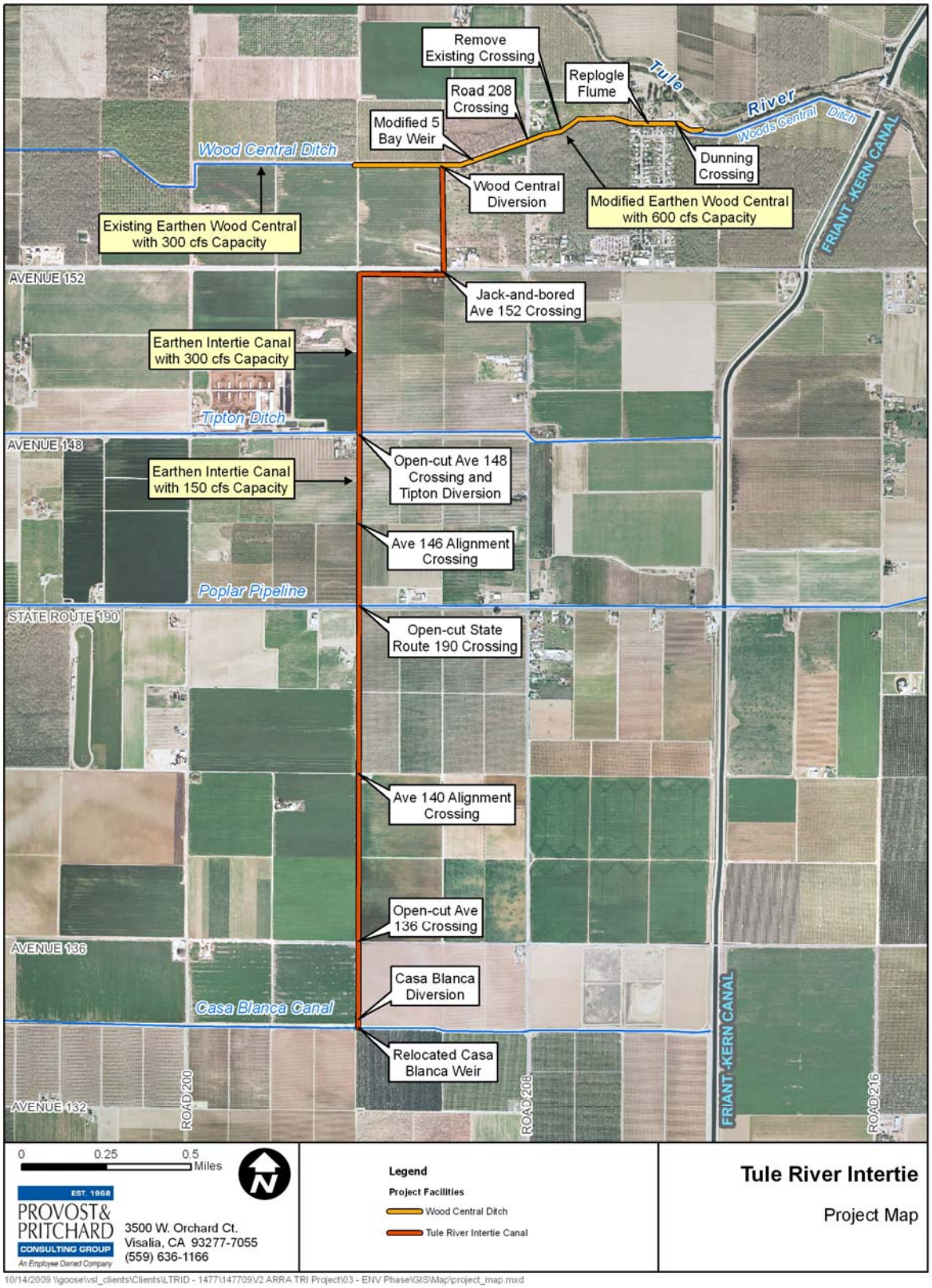

Figure 2.2-1 Proposed Action Project Details

Figure 2.2-2 Wood Central Ditch Modifications

Section 3 Affected Environment and Environmental Consequences

3.1 Water Resources

3.1.1 Affected Environment

3.1.1.1 Lower Tule River Irrigation District

LTRID's current facilities include approximately 163 miles of unlined earth canals and approximately 47 miles of river channel in Tulare County, California (see Figure 1.4-1). Groundwater pumping was historically used to meet water demands prior to the creation of LTRID and the importation of supplemental surface water supplies. As a conjunctive use district, water supplies in LTRID include groundwater, water rights on the Tule River, and CVP water under two separate contracts. Within LTRID, the ground surface slope generally falls towards the west at approximately five to seven feet per mile. This enables LTRID's earthen canal conveyance system to deliver surface water via gravity from diversions on the east side of the district (from the FKC and the Tule River) to the west side of the district.

In 1951, LTRID entered into a long-term renewable contract with Reclamation for 61,200 AF per year (AFY) of Class 1 and 238,000 AFY of Class 2 Friant water. In 1975, LTRID entered into a three-way contract with Reclamation and DWR to provide an additional 31,102 AFY of CVP water supply. Under the original three-way contract, CVP water was diverted from the San Joaquin-Sacramento River Delta (Delta), conveyed through State Water Project (SWP) facilities via the California Aqueduct to the Cross Valley Canal and delivered to Arvin-Edison Water Storage District. Through the Cross Valley Canal Exchange Program, LTRID and Arvin-Edison Water Storage District 'swapped' their Delta and Friant CVP water supplies. Recently, the exchange agreement between Arvin-Edison Water Storage District and LTRID was terminated. LTRID may enter into similar exchange arrangements with other water districts to obtain their CVP water supplies from the Delta; however, proposed exchange arrangements under Article 5 of the long-term renewable contracts are not within the scope of this EA or approval process.

Reduction in allowable storage at Success Reservoir on the Tule River, due to dam seismic stability issues, has significantly reduced the amount of Tule River water captured to wet years that can be stored within the dam for later use during dry years. Although the reduction in storage has not yet affected LTRID's Tule River water supply (approximately 70,000 AFY), the reduction in storage has the potential to significantly impact the amount of surface water that LTRID can bring into the district.

3.1.1.2 Tule River

The upper watershed of the Tule River includes the North, Middle and South Forks of the Tule River, which converge in the foothills above Success Dam. Downstream from the dam, the main stem of the Tule meanders west through Porterville and across the valley floor until it drains into the Tulare Lakebed. Success Dam is the main regulating facility on the Tule River and is used for flood management, water supply, and power generation. Tule River has

no outlet to the ocean and all flows released from Success Reservoir must be used or disposed of within the service area; otherwise they can cause flood damage in the Tulare Lakebed (Reclamation 2009). Diversions from the Tule River are made as far upstream as possible due to the significant seepage experienced in the Tule River channel. LTRID has a number of points of diversion on the Tule River downstream of the confluence of Wood Central Ditch and the FKC. Approximately, two-thirds of LTRID can receive Tule River water from these points of diversion. There are few north-south intertie facilities, and none on the east side of the district. For this reason, LTRID is unable to deliver Tule River to the southeastern third of the district.

3.1.1.3 Groundwater Resources

LTRID is located within the Tule Sub-basin of the San Joaquin Valley Groundwater Basin. This sub-basin is generally bounded by the Tulare County line on the west, by the Sierra Nevada bedrock on the east, the Tulare-Kern County line on the south, and the northern boundary of LTRID on the north (DWR 2003). Continental deposits that make up the aquifer include flood-basin, younger alluvium, older alluvium, undifferentiated continental, and the Tulare Formation. Most are major sources of groundwater and are moderately to highly permeable. Groundwater recharge is done directly by stream recharge of the Tule River, White River, and Deer Creek as well as delivery channel seepage, recharge basin percolation and deep percolation from applied irrigation water within LTRID (DWR 2003). Annual extraction of groundwater within Tule Sub-basin is estimated to be 19,300 AF for urban and 641,000 AF for agricultural needs. Recharge of the sub-basin from natural and applied water is estimated to be approximately 34,000 AFY and 201,000 AFY, respectively. In 1980, Tule Sub-basin was identified by the California Department of Water Resources (DWR) as being in critical overdraft (DWR 2003).

LTRID maintains and operates 12 recharge and regulating basins, covering approximately 3,000 acres. When excess surface water is available, LTRID uses the 12 groundwater recharge facilities to recharge the aquifer. At present LTRID does not own or control groundwater extraction facilities. All groundwater pumping is done by landowners who utilize privately owned wells. LTRID has estimated an annual irrigation demand of approximately 346,500 AF. On average, the district supplies approximately 201,400 AFY of surface water leaving approximately 145,100 AFY of demand to be met by groundwater pumping.

3.1.1.4 Subsidence

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater pumping, hydrocompaction caused application of water to dry soils, and oil mining (Poland and Lofgren 1984). Large withdrawal of groundwater within the San Joaquin Valley between the 1920's and 1960's for agricultural irrigation caused significant overdraft within the central west side of the valley and most of the southern valley causing substantial land subsidence within those areas (Poland and Lofgren 1984). Importation of surface water from the CVP and SWP in the 1970's, decreased the rate of groundwater withdrawal allowing aquifer levels to recover and subsequently reducing subsidence rates (Poland and Lofgren 1984). Recently, groundwater pumping rates have increased throughout the San Joaquin Valley due to a series of drought years and curtailments of water deliveries from the CVP and SWP due to implementation of environmental protection measures.

3.1.2 Environmental Consequences

3.1.2.1 Proposed Action

Under the Proposed Action, LTRID would develop the infrastructure to deliver Tule River water to the southeastern third of the district which currently cannot receive it. This would enable LTRID to continue to beneficially use their Tule River water rights within their district. Landowners within the district use groundwater and surface water conjunctively, which means that even with the Proposed Action groundwater would continue to be pumped within the district. Availability of the additional source of surface water would reduce the amount of groundwater needed to meet irrigation demands. Therefore, the Proposed Action would not contribute to the existing overdraft nor create subsidence within the Proposed Action area. Water delivery would use an existing point of diversion at the Wood Central Ditch for the LTRID's pre-1914 Tule River water rights. There would be no modification to LTRID's existing Tule River water rights nor to the amount of water available to the district, which has been quantified in historic legal decisions between diverting parties on the Tule River. No work would be done within the Tule River. Therefore, there would be no adverse impacts to water resources as a result of the Proposed Action.

3.1.2.2 No Action

Surface water resources would continue to be managed within existing facilities as described previously. However, with the reduced storage in Success Reservoir, water that could not be used within the two-thirds of the district able to receive Tule River water would be lost downstream of the district potentially causing flood damage within the Tulare Lakebed. The southeastern third of the district would not receive an additional source of surface water but would continue to receive Friant CVP water. Landowners within the district would continue groundwater pumping to meet irrigation demands not met by surface water resources. Increased groundwater pumping would continue to decrease groundwater levels in an already overdrafted subbasin which could lead to further subsidence.

LTRID prepared an IS/ND for the Tule River Intertie Project in which they determined that there would be "no significant impacts to hydrology or water quality" as a result of the Tule River Intertie Project (LTRID 2007). Any changes to the Tule River Intertie Project not analyzed within the IS/ND may require additional environmental review. Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

Therefore, there could be adverse impacts to groundwater resources from the No Action Alternative.

3.2 Land Use

3.2.1 Affected Environment

LTRID encompasses 161 square miles in Tulare County, California. The district is bounded by Avenue 120 on the south, the FKC on the east, Avenue 200 on the north and Road 16 on the west. Of the approximately 104,000 acres within LTRID, 84,500 acres are irrigated. The primary crops are alfalfa (23,000 acres), silage (34,000 acres) and cotton (11,000 acres). Over 98 percent of LTRID is zoned for agricultural use by the County of Tulare (Tulare County 1964). The land surrounding the Proposed Action area is primarily agricultural consisting of a combination of permanent plantings and annual field crops (see Appendix A for site photographs).

The 2.75-mile Intertie Canal alignment would be located on lands classified by the California Department of Conservation (CDC) as either Prime Farmland or Farmland of Statewide Importance (Table 3.2-1). The majority of these properties are also enrolled under the Land Conservation Act of 1965 (Williamson Act). The Williamson Act was created by the California Legislature in order to protect the agricultural, wetland and scenic areas of the State from unnecessary or premature conversion to urban uses (Tulare County 2009c).

Table 3.2-1 Farmland Parcel Designations

Township	Range	Section	APN	CDC Farmland Designation	Williamson Act Designation
21S	26E	25	236-140-064	Prime	No
21S	26E	25	236-140-062	Prime	Yes
21S	26E	36	236-150-010	Prime	Yes
21S	26E	36	236-150-009	Prime	No
21S	26E	36	236-150-005	Prime Statewide Importance	Yes
21S	26E	36	236-160-003	Prime	Yes
21S	26E	36	236-160-011	Prime	Yes
22S	26E	1	302-060-004	Prime	Yes
22S	26E	1	302-060-017	Prime Statewide Importance	Yes
22S	26E	12	302-020-009	Statewide Importance	No

Source: LTRID 2007

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Under the Proposed Action, modifications to the Wood Central Ditch would be accomplished through improvements to existing facilities within LTRID ROW and would not change existing land uses. Construction of the Intertie Canal would largely be along an alignment that is currently dirt access roads; however, up to a 95-foot wide portion of the fields to the east of this road (east of the mid-Section line) would be taken out of active agricultural production for construction of the new Intertie Canal. Although this agricultural area is listed under the Williamson Act and is classified as either Prime Farmland or Farmland of Statewide Importance, the construction of irrigation facilities is considered to be a compatible agricultural use and would not change its land use designation. The Proposed Action would provide additional sources of surface water for irrigation within the southeastern portion of

LTRID ensuring continued agricultural land use. Consequently, the Proposed Action would maintain current land uses and would have no adverse impacts to land use.

3.2.2.2 No Action

LTRID prepared an IS/ND for the Tule River Intertie Project in which they determined that 1) the Tule River Intertie Project would not "physically divide any established communities", 2) the Tule River Intertie Project is "consistent with agricultural purposes common to the immediate area", and 3) that there are "no habitat conservation plans or natural community conservations plans" associated with the action area (LTRID 2007). Any changes to the Tule River Intertie Project not analyzed within the IS/ND may require additional environmental review. Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

3.3 Biological Resources

3.3.1 Affected Environment

Most of the land within the LTRID service area is devoted to irrigated agricultural production. Like much of the remaining San Joaquin Valley, the landscape is dominated by irrigated fields that are intensively managed. Very little to no native vegetation exists, and little volunteer vegetation is allowed to grow. Cultivation usually occurs up to the very margins of fields, roads or ditches. Herbicides are routinely used to control unwanted vegetation which typically includes all non-crop species. Occasionally, cultivated land is allowed to lie fallow, and ruderal plant associations take over. Ruderal habitats are subject to frequent disturbance and are quickly colonized by non-native, and to a lesser extent native, plant species. Species composition varies greatly depending on the location, type and frequency of disturbance, and proximity of natural habitats. In addition to fallow agricultural fields, roadsides within the southern San Joaquin Valley area often support ruderal plant communities. Row crops and orchards provide minimal food and cover for wildlife.

Wildlife species found in the San Joaquin Valley that may inhabit such areas more commonly includes a limited number of small and mid-sized mammals, including voles (*Microtus* spp.), California ground squirrels (*Spermophilus beecheyi*), pocket gophers (*Thomomys botta*), deer mice (*Peromyscus* spp.), Audubon cottontail rabbits (*Sylvilagus bachmani*), and black-tailed hare (*Lepus californicus*), Virginia opossum (*Didelphus virginianus*), and striped skunks (*Mephitis mephitis*). Some common bird species present in agricultural habitats, include common crows (*Corvus brachyrhynchos*), mourning doves (*Zenaida macroura*), western burrowing owls (*Speo canicularia*), barn owls (*Tyto alba*), and a limited number of passerine birds (*Passeriformes*). Additionally, swallows may commonly nest in bridge structures over canals. The Road 208 crossing would be modified under the Proposed Action. The western burrowing owl is listed by the California Department of Fish and Game as a Species of Concern. Although the burrowing owl is not known to inhabit the Proposed Action area, they are known to move around and ground squirrel burrows on banks and ROW constitute favored habitat in the Central Valley.

Additionally, a list of species protected under the federal Endangered Species Act (16 USC 1532 et seq.; see Table 3.3-1.) was generated on October 13, 2009 (Document # 091013034201) and updated on November 12, 2009 (Document #091112072349) by accessing the USFWS Database: http://www.fws.gov/sacramento/es/spp_list.htm and the California Department of Fish and Game Natural Diversity Database (USFWS 2009a and 2009b and CNDDB 2009). The list includes species identified on the following U.S. Geological Survey 7½ minute quadrangles surrounding the Proposed Action area including: Cairns Corner, Duco, Fountain Spring, Frazier Spring, Lindsay, Porterville, Sausalito School, Success Dam, and Woodville. The list was supplemented with species identified from the California Natural Diversity Database (CNDDB) covering this area (Figure 3.3-1) and a biological survey of the project ROW and immediately adjacent land was conducted (Vanherweg 2007).

Table 3.3-1 Federally listed species from the vicinity of the Proposed Action area

Species	***Status***[1]	***Effects***[2]	***Summary basis for ESA determination***[3]
Amphibians			
California red-legged frog (*Rana aurora draytonii*)	T	NE	**Absent**. No vernal pools or suitable habitat are present in the Proposed Action area and none would be affected by the Proposed Action.
California tiger salamander (*Ambystoma californiense*)	T	NE	**Absent**. No suitable habitat in the Proposed Action area and none would be affected by the Proposed Action. This species is believed absent from most of the San Joaquin Valley floor.
Birds			
Southwestern willow flycatcher (*Empidonax trailli extimus*)	E	NE	**Absent**. Riparian habitat suitable for this species would not be affected by the Proposed Action. The nearest historically recent record of breeding individuals is from San Luis National Wildlife Refuge, far from the Proposed Action area.
California condor (*Gymnogyps californianus*)	E, X	NE	**Absent.** No suitable habitat or critical habitat for this species is present in the Proposed Action area or would be affected.
Fish			
Delta smelt (*Hypomesus transpacificus*)	T	NE	**Absent**. No suitable habitat is present in the Proposed Action area and none would be affected by the Proposed Action. Waterways affected do not connect with the Delta.
Invertebrates			
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	T	NE	**Absent.** No elderberry plants (suitable habitat) would be affected by the Proposed Action and hence this species would not be affected.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T	NE	**Absent.** No vernal pools or supporting aquatic habitat are present in Proposed Action area and none would be affected by the Proposed Action.
Mammals			
San Joaquin kit fox (*Vulpes mactotis mutica*)	E	NLAA	**Present**. Suitable foraging habitat is present. Based on CNDDB records and species requirements, it is expected that kit fox would use the Proposed Action area, albeit at a low level.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	E	NE	**Absent**. No suitable habitat is present in the Proposed Action area or would be affected. The nearest record is from approximately five miles away and was recorded in 1943.
Plant			

Keck's checker-mallow (=checkerbloom) (*Sidalcea keckii*)	E, X	NE	**Absent**. No suitable habitat or critical habitat is present in the Proposed Action area and none would be affected.
San Joaquin Adobe Sunburst (*Pseudobahia peirsonii*)	T	NE	**Absent**. No suitable habitat is present in the Proposed Action area and none would be affected.
Springville clarkia (*Clarkia springvillensis*)	T	NE	**Absent**. No suitable habitat is present in the Proposed Action area and none would be affected.
Reptiles			
Blunt-nosed leopard lizard (*Gambelia sila*)	E	NE	**Absent**. No suitable habitat for this species is present in the Proposed Action area and none would be affected by the Proposed Action.
Giant garter snake (*Thamnophis gigas*)	T	NE	**Absent**. No records for this species are available from recent history from the lower San Joaquin Valley and this species is believed absent south of areas connected to Mendota Pool, far from the Proposed Action area.

1 Status= Listing of Federally special status species, unless otherwise indicated
E: Listed as Endangered
T: Listed as Threatened
X: Critical Habitat designated for this species
2 Effects = effect determination
NE = No Effect
NLAA = Not likely to adversely affect
3 Definition Of Occurrence Indicators
Present: Species observed in area
Possible: Species not observed at least in the last 10 years
Absent: Species not observed in study area and habitat requirements not met
4 CNDDB = California Natural Diversity Database 2009

In the past, much of the valley floor was habitat for a wide diversity of wildlife, including the San Joaquin kit fox, a species listed as endangered under both State and Federal Endangered Species Acts. Although, no natural habitat remains in the Proposed Action area, it is possible that the kit fox may range through the Proposed Action area. Records identified for the endangered San Joaquin kit fox are present from approximately one and 1.5 miles southeast of the Proposed Action area (CNDDB 2009). Additional records for San Joaquin kit fox are recorded from along the FKC, which generally runs parallel and approximately one mile east of the Proposed Action area. Other records for San Joaquin kit fox exist from the vicinity of Porterville, and west of the Proposed Action area, although a survey of the project area on June 14, 2007 did not locate individuals or sign of recent kit fox use in the Intertie Canal corridor or immediately adjacent properties (Vanherweg 2007). Other listed species are not expected to occur in the Proposed Action area because of the lack of suitable habitat. Additionally, there is no designated or proposed critical habitat for listed species within the Proposed Action area.

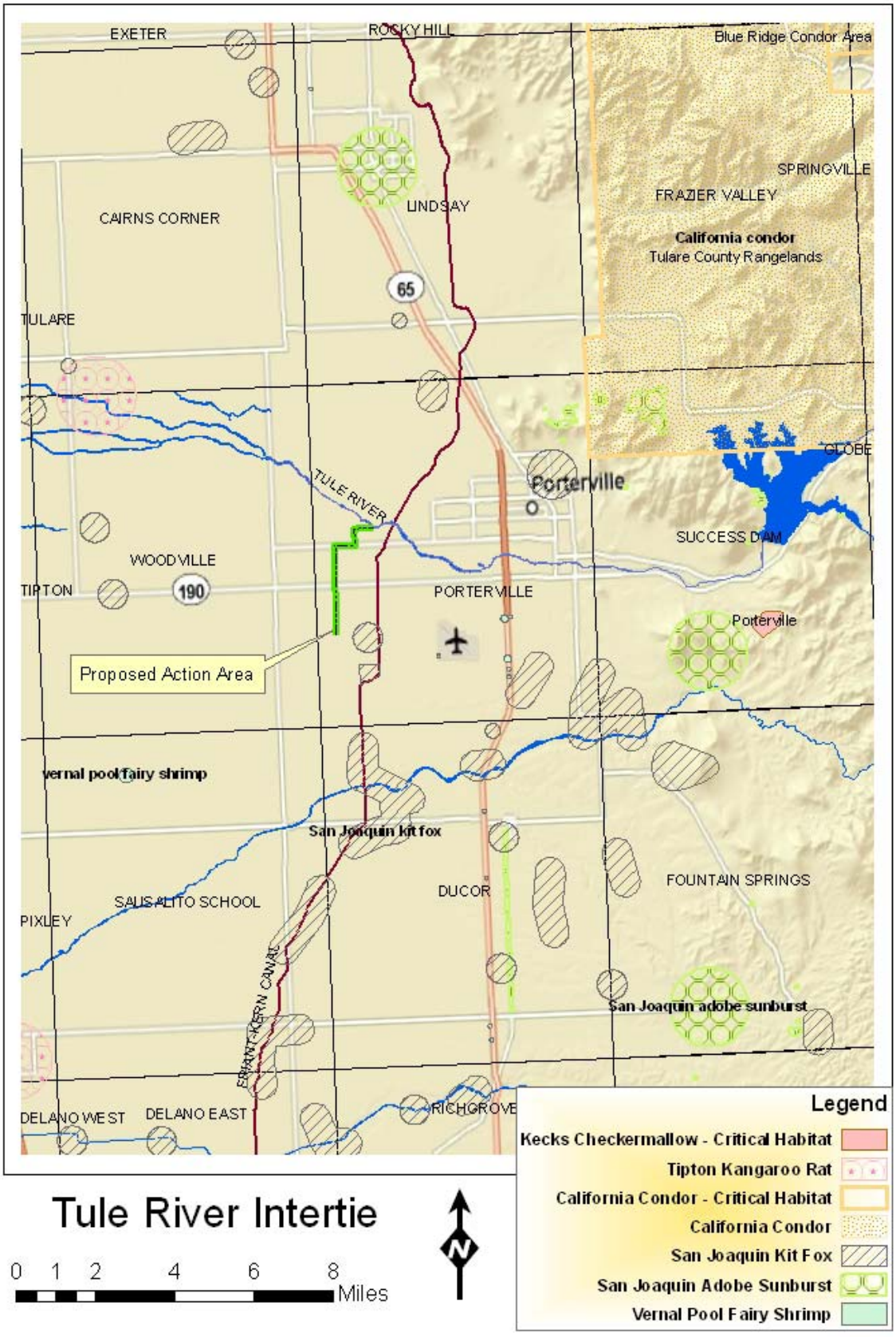

Figure 3.3-1 Listed Species and Critical Habitat surrounding the Proposed Action Area

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

The San Joaquin kit fox occurs in annual grassland and mixed shrub/grassland habitats in low, rolling hills of the San Joaquin and adjoining inland coastal valleys (USFWS 1998). This species may utilize cultivated lands, and populations are known from urbanized areas of Bakersfield and Taft (USFWS 1998). The San Joaquin kit fox ranges widely, utilizes open areas, including agricultural lands, and are known to travel along canal ROW, such as the nearby FKC ROW, which lies approximately one mile east of the Proposed Action area and supports several records for San Joaquin kit fox. Based on the records and the species requirements, it is expected that the Proposed Action area would be utilized by San Joaquin kit fox, albeit at a low level.

Proposed Action effects would include temporary and permanent effects to the landscape that may affect San Joaquin kit fox. Temporary disturbance to lands would occur during the period of construction, including additional vehicular traffic, construction noise and worker activity. Additionally, as a consequence of the Proposed Action, approximately 31 acres of potential San Joaquin kit fox habitat would be permanently altered, primarily converting agricultural habitat into canal habitat. A variety of agricultural habitats would be affected, but alfalfa and tree crops would be most affected. Coincident with the Intertie Canal construction, periodic maintenance would be required on the Intertie Canal, which would be the responsibility of LTRID as the owner/operator of the canal.

Under the Proposed Action, the Intertie Canal would be constructed primarily within an existing access road ROW, and a mostly disturbed area for San Joaquin kit fox potential foraging, denning and movement corridor (Vanherweg 2007). With implementation of pre-construction surveys and avoidance and minimization measures (Appendix F), the effect of this would be expected to be minimal to the San Joaquin kit fox. On November 13, 2009, Reclamation requested concurrence from the USFWS that the effect is not likely to adversely affect this species. On February 2, 2010, USFWS concurred with Reclamation that the Proposed Action may affect but is not likely to adversely affect San Joaquin kit fox.

The modification of culverts and bridges could affect migratory birds such as swallows, and land disturbance could affect burrowing owls. However, with implementation of avoidance and minimization measures (see Appendix D and E), no take of migratory birds is anticipated and effects to other biological resources would be minor (LTRID 2007).

3.3.2.2 No Action

LTRID prepared an IS/ND for the Tule River Intertie Project in which they determined that there would be “no impacts” to biological resources as a result of the Tule River Intertie Project (LTRID 2007). Any changes to the Tule River Intertie Project not analyzed within the IS/ND may require additional environmental review. Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation’s authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The APE includes the areas that would be impacted by the Proposed Action including the portions of the Wood Central Ditch and the 2.5 mile long, 95-foot wide corridor of the proposed intertie canal. Legal description for the APE is sec 30, T. 21 S., R. 27 E; sec. 25, 30, and 36 of T. 21 S., R. 26 E; and sec. 1 and 12 of T. 22 S., R. 26 E., Mount Diablo Meridian as depicted on the Porterville 7.5-minute USGS topographic quadrangle.

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period (Orfila 2009).

A records search for the Proposed Action was conducted at the Southern San Joaquin Valley Information Center in Bakersfield California by Pruett (2007) and again by Orfila (2009). Pruett (2007) identified four previous surveys that either crossed or were adjacent to the APE, two of which resulted in the recording of archaeological resources that were not within the APE. The Poplar Ditch had been previously recorded and is on the Directory of Properties in the Historic Property Data File for Tulare County, California; however, it is unclear from the report if the portion of the Poplar Ditch that crosses the APE was previously recorded. The

Poplar Ditch was recommended not eligible for inclusion in the National Register; however, after clarifying with the SHPO, the Poplar Ditch had never received a consensus determination and is not formally determined ineligible for inclusion in the National Register. The additional records search by Orfila (2009) identified the Pruett (2007) report as the only additional resource identification effort within the APE. Two cultural resources, the Wood Central Ditch and a single obsidian "nodule" were recorded by Pruett (2007).

As noted above, Pruett (2007) recorded two cultural resources as a result of the 2007 cultural resource identification and inventory efforts. Applying the National Register criteria at 36 CFR Part 60.4, Pruett (2007:9) recommends the Wood Central Ditch as not eligible for inclusion in the National Register. Reclamation prefers not to formally determine the eligibility of Wood Central Ditch for this undertaking but rather, assumes that for the purpose of this undertaking and this undertaking only; the Wood Central Ditch is eligible for inclusion in the National Register. This preference is in part due to the lack of historic context applied to the determination of eligibility of the Wood Central Ditch. Pruett's (2007) identification of the obsidian "nodule" describes the nodule as an isolated occurrence of poor quality obsidian. The "nodule" does not appear to exhibit traits common to culturally modified or enhanced stone tools or stone tool debitage. Discussion of the "nodule" indicates that the item is an isolated find and alone is not individually significant. Pruett (2007) concludes that the isolate is not eligible for inclusion in the National Register.

Orfila (2009) conducted a more intense cultural resource pedestrian survey effort, completing those components that Pruett (2007) did not have access to and re-surveying portions that Pruett (2007) had inspected previously. The Tipton Ditch, Poplar Ditch, and the Casa Blanca Canal have been formally evaluated for inclusion in the National Register. For the purpose of this undertaking and this undertaking only, Reclamation assumes that Tipton Ditch, Poplar Ditch, and the Casa Blanca Canal are eligible for inclusion in the National Register. Orfila (2009) identified two historic building structures located outside of the APE. There are no actions proposed that would affect these resources and they were not evaluated or recorded as part of this action. An effort was made by Orfila (2009) to relocate the obsidian "nodule" recorded by Pruett (2007). The purpose of this was to 1) verify if the resource was actually in the APE and, 2) determine if any other artifacts or evidence of cultural material is evident on the surface which might indicate a potential for subsurface deposits. Orfila (2009) was not able to relocate the isolate nor was she able to identify any additional evidence of cultural material on the surface in the general area of the recorded isolated obsidian "nodule". Given that the effort to relocate the item was unsuccessful and that no other evidence of cultural material was located on the surface, Reclamation concludes that the isolated "nodule" does not represent a surface signature of deeper, intact, cultural bearing deposit, but in fact is an isolated occurrence of poor quality obsidian.

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

The Proposed Action would result in the issuance of Federal appropriations through a 2009 ARRA grant and Challenge grant. These funds would be used to implement actions on the ground that has been determined to have the potential to effect historic properties. Utilizing the above described cultural resource identification efforts, Reclamation entered into consultation with the SHPO on October 29, 2009 seeking their concurrence on a finding of no

adverse effect to historic properties pursuant to the regulations at 36 CFR Part 800.5(b). In addition, Reclamation has consulted with Tule River Reservation Indian Tribe requesting any information regarding sites of religious or cultural significance or information on historic properties. Reclamation has received no response to its request from the Tule River Reservation. The SHPO concurred with Reclamations finding of no effect on November 10, 2009, received by Reclamation on November 13, 2009. Therefore, the Proposed Action would have no impacts to cultural resources.

3.4.2.2 No Action

Without the issuance of federal appropriations, Reclamation has no undertaking to initiate Section 106 of the NHPA as defined at Section 301(7) of the NHPA. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances. The No Action Alternative would have no impact to cultural resources as a result.

3.5 Indian Trust Assets

3.5.1 Affected Environment

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individual Indians. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITA cannot be sold, leased or otherwise alienated without United States' approval. ITA may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by Indian tribes, or individual Indians by treaty, statute, or Executive Order. The nearest ITA is the Tule River Reservation which is 16.6 miles east of the Proposed Action location.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

There are no tribes possessing legal property interests held in trust by the United States in the land involved with this action. The nearest ITA is 16.6 miles east of the Proposed Action area; therefore, there would be no affect to ITA.

3.5.2.2 No Action

Construction of the Tule River Intertie Project would not affect any ITA as there are none in the project area.

3.6 Environmental Justice

3.6.1 Affected Environment

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

Construction and operation of facilities would take place in a primarily rural, agricultural setting with scattered rural residential homes. There is one subdivision located to the immediate south of the Wood Central Ditch near the intersection of the ditch and the Tule River. The closest residence is located approximately 90 feet from the Proposed Action area within the subdivision described above. There are approximately 235 homes located within a one mile radius of the Proposed Action area.

Table 3.6-1 Tulare County Demographics

	Tulare County		California	
Demographics	**Estimate**	**Percentage**	**Estimate**	**Percentage**
Total Population	419,165	--	36,418,499	--
Male	210,614	--	18,210,090	--
Female	208,551	--	18,208,409	--
Median Age	28.8	--	34.7	--
One race	408,943	97.6	35,162,860	96.6
Two or more races	10,222	2.4	1,255,639	3.4
White	333,216	79.5	23,243,689	63.8
Black or African American	8,540	2.0	2,549,314	7.0
American Indian	7,821	1.9	610,997	1.7
Asian	16,194	3.9	4,915,229	13.5
Native Hawaiian/Pacific Islander	649	0.2	206,388	0.6
Hispanic	237,764	56.7	13,160,978	36.1
Some other race	63,430	15.1	6,244,749	17.1

Source: US Census Bureau 2009

The Proposed Action area relies to a large extent, either directly or indirectly, on agriculture for employment. Median family income within Tulare County falls approximately $20,000 below the state's (Table 3.6-1). Approximately 57 percent of the population within Tulare County is of Hispanic or Latino origin, which compares to about one-third for the state as a whole (Table 3.6-1). The market for seasonal workers on local farms also draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, increasing populations within these small communities during peak harvest periods.

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

The Proposed Action includes the construction of a new Intertie Canal and modifications to Wood Central Ditch in order to deliver Tule River water to an area that currently does not receive it. This water would be available at a cheaper rate than CVP water or pumped groundwater as previously discussed. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations. There may be a slight beneficial

impact to Environmental Justice as a result of the Proposed Action due to the additional infrastructure for irrigation within the southeastern portion of LTRID.

3.6.2.2 No Action

Without Federal appropriations, LTRID would not be subject to Executive Order 12898. Farming practices and local employment may be temporarily impacted by the loss of Tule River water that could not be stored within Success Reservoir or used within the district. Although CVP water and pumped groundwater would still be available, both water sources cost more than Tule River water and could impact jobs for disadvantaged populations as farming costs increase. However, this would diminish once the Intertie Canal was built by the district. Future construction activities would support continued agricultural production and could provide additional jobs for minority or low income populations. Consequently, the No Action Alternative could have temporary adverse impacts to Environmental Justice.

3.7 Socioeconomic Resources

3.7.1 Affected Environment

The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. Agriculture and related industries is the second largest industry within Tulare County (Table 3.7-1). The market for seasonal workers on local farms draws thousands of migrant workers each year. LTRID is a predominately agricultural district. Surface water availability allows farmers within LTRID to plan for the types of crops to grow and to secure loans to purchase supplies. In 2008, Tulare County's unemployment rate of 9.5 percent exceeded the state average. The number of people below the poverty level was also greater than the state average. Additionally, the number of families in Tulare County below the poverty line was nearly double the state's average (Table 3.7-1). Economic variances within LTRID may include fluctuating agricultural prices, insect infestation, changing hydrologic conditions, increased fuel and power costs. Additional Tulare County economic characteristics can be found in Table 3.7-1 below.

Table 3.7-1 Tulare County Economic Characteristics

	Tulare County		California	
Economic Characteristic	**Estimate**	**Percentage**	**Estimate**	**Percentage**
Population 16 years and over	300,361	--	28,139,366	--
Civilian labor force	182,945	--	18,084,737	--
Per capita income	18,079	--	29,405	--
Median Household Income	47,179	--	69,659	--
Unemployed	--	9.5		6.9
Families below poverty level	--	18.5	--	9.6
Under 18 below poverty	--	22.1	--	17.9
Over 18 below poverty	--	17.8	--	11.2
Industries				
Agricultural and related	28,021	16.9	339,633	2.0
Construction	12,766	7.7	1,284,152	7.6
Manufacturing	14,282	8.6	1,770,277	10.5
Wholesale trade	7,542	4.6	590,137	3.5
Retail trade	17,312	10.5	1,869,838	11.1
Transportation and related	7,664	4.6	798,965	4.7
Information	1,308	0.8	514,954	3.1

Finance and Insurance	6,922	4.2	1,215,793	7.2
Professional and related	9,049	5.5	2,022,993	12.0
Educational and Health	32,093	19.4	3,248,747	19.3
Arts and Entertainment	11,358	6.9	1,555,226	9.2
Non-administrative services	7,341	4.4	876,807	5.2
Public administration	9,937	6.0	747,344	4.4

Source: US Census Bureau 2008

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

The Proposed Action would reduce water costs to landowners as Tule River water would cost less than CVP water or pumped groundwater. Construction activities would also have a slight beneficial impact as additional, but temporary, jobs are created. Consequently, the availability of a cheaper, reliable surface water resource would have slight beneficial impacts to socioeconomic resources.

3.7.2.2 No Action

Any changes to the Tule River Intertie Project not analyzed within the IS/ND may require additional environmental review. Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

3.8 Air Quality

3.8.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB), the second largest air basin in California. Air basins share a common "air shed," the boundaries of which are defined by surrounding topography. Although mixing between adjacent air basins inevitably occurs, air quality conditions are relatively uniform within a given air basin. The San Joaquin Valley experiences episodes of poor atmospheric mixing caused by inversion layers formed when temperature increases with elevation above ground, or when a mass of warm, dry air settles over a mass of cooler air near the ground.

Despite years of improvements, the SJVAB does not meet state and federal health-based air quality standards for volatile organic compounds (VOC)/reactive organic gases (ROG) or nitrous oxides (NO_x) but has reached attainment for inhalable particulate matter (PM_{10}) and carbon monoxide [CO] (see Table 3.8-1). To protect health, the San Joaquin Valley Air Pollution Control District (SJVAPCD) is required by federal law to adopt stringent control measures to reduce emissions.

Section 176 (C) of the Clean Air Act [CAA] (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 USC 7401 (a)) before the action is otherwise approved. In this context,

conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain de minimis amounts thus requiring the federal agency to make a determination of general conformity. The following de minimis thresholds covering the Proposed Action are presented in Table 3.8-1.

Table 3.8-1 San Joaquin Valley General Conformity de minimis Thresholds

Pollutant	Federal Status	de minimis (Tons/year)	de minimis (Pounds/day)
VOC/ROG (as an ozone precursor)	Nonattainment serious 8-hour ozone	50	274
NO_x (as an ozone precursor)	Nonattainment serious 8-hour standard	50	274
PM_{10}	Attainment	100	548
CO	Attainment	100	548

Sources SJVAPCD 2009; 40 CFR 93.153

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

Operation of LTRID's water distribution system would not contribute to criteria pollutant emissions, as water distribution would be done via gravity and would require no pumping. However, emissions would be associated with the modifications to Wood Central Ditch and the construction of the Tule River Intertie. Air quality emissions for construction activities associated with the delayed project were calculated with the Sacramento Air Quality Management District's *Road Construction Model Version 6.3-2* (Table 3.8-2).

Table 3.8-2 Calculated Proposed Action Emissions

Pollutant	Federal Status	de minimis (Tons/year)	Project emissions (Tons/year)
VOC/ROG (as an ozone precursor)	Nonattainment serious 8-hour ozone	50	3.2
NO_x (as an ozone precursor)	Nonattainment serious 8-hour standard	50	24.8
PM_{10}	Attainment	100	1.6
CO	Attainment	100	32

Sources: SJVAPCD 2009; 40 CFR 93.153, Road Construction Model Version 6.3-2, Sacramento Air Quality Management District

As calculated emissions are well below the de minimus thresholds for the SJVAPCD, there would be no adverse air quality impacts associated with the Proposed Action and a conformity analysis would not be required.

3.8.2.2 No Action

LTRID prepared an IS/ND for the Tule River Intertie Project in which they determined that there would be "less than significant impacts" to air quality as a result of the Tule River Intertie Project with the incorporation of "standard construction requirements" for dust prevention and emission precautions (LTRID 2007). Any changes to the Tule River Intertie Project not analyzed within the IS/ND may require additional environmental review. Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

3.9 Global Climate Change

3.9.1 Affected Environment

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes (changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.) can contribute to climate change (EPA 2008a).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some greenhouse gases such as carbon dioxide (CO_2) occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO_2, methane (MH_3), NO_x, and fluorinated gasses (EPA 2008a).

During the past century, humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities, and appliances. The added gases, primarily CO_2 and MH_3, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2008b). While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

More than 20 million Californians rely on regulated delivery of water resources such as the SWP and the CVP as well as established water rights from rivers. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

The State of California has adopted Assembly Bill 32 (AB 32) and has identified GHG reduction goals; the effect of increased GHG emissions as they relate to global climate change is inherently an adverse environmental impact. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in an impact with respect to global climate change.

To meet AB 32 goals, California would need to generate less GHG than current levels. For most projects there is no simple metric available to determine if a single project would substantially increase or decrease overall GHG emission levels (Placer County 2009).

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

The impact that GHG emissions have on global climate change is not dependent on whether they were generated by stationary, mobile, or area sources, or whether they were generated in one region or another. Implementation of the Proposed Action would be expected to result in a slight temporary net increase in GHG emissions associated with short-term construction activities. Although operation of LTRID canals are done via gravity and would not result in GHG emissions, there could be a slight net increase of GHG emissions associated with increased maintenance activities of the new Intertie Canal. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in only a very slight increase in GHG emissions from temporary or existing sources.

3.9.2.2 No Action

Delayed construction of the Intertie Canal and modifications to Wood Central Ditch are expected to be similar to the Proposed Action; however, the exact timing for these actions is unknown at this time and outside the scope of this EA and Reclamation's authority. Without Federal appropriations, the project would still be subject to State and local laws, regulations, and ordinances.

3.10 Cumulative Impacts

Cumulative impacts result from incremental impacts of the Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action, the incremental effect of the Proposed Action was examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

Reclamation's action is the awarding of a 2009 ARRA grant and Challenge grant for the construction of a new Intertie Canal and modifications to the existing Wood Central Ditch. The Proposed Action would create the infrastructure to deliver Tule River water to an area within LTRID that cannot receive it at this time. The use of this water would be to maintain

and grow crops on existing agricultural lands. The Proposed Action would maintain existing land uses and would not contribute to cumulative changes or impacts to land uses or planning.

LTRID already receives CVP Friant water from the FKC and private owners' pump groundwater for irrigation. The addition of Tule River water would increase the amount of surface water available for irrigation thereby decreasing the amount of groundwater needed to meet irrigation demands. This will potentially help reduce additional overdraft and the chance of subsidence within the district. It will also increase the amount of surface water available for groundwater recharge due to irrigation. This could provide beneficial cumulative impacts to groundwater levels.

The Proposed Action was found to have no impact on biological resources, cultural resources, ITA, or air quality and therefore there is no contribution to cumulative impacts on these resources areas. Slight beneficial impacts to land use, socioeconomics, and environmental justice are within historical variations and would not contribute to cumulative impacts. Overall there would be no adverse cumulative impacts caused by the Proposed Action.

Section 4 Consultation and Coordination

Several federal laws, permits, licenses and policy requirements have directed, limited or guided the National Environmental Policy Act analysis and decision-making process of this EA.

4.1 Fish and Wildlife Coordination Act (16 USC § 651 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the USFWS and State fish and wildlife agencies where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified" by an agency under Federal discretion. Consultation is to be undertaken for the purpose of "preventing the loss of and damage to wildlife resources". The Proposed Action would not impound, divert, control, or modify a body of water. The Tule River diversion point would not change; water would be delivered through the Wood Central Ditch and to the new Intertie Canal. The Proposed Action would not cause loss or damage to wildlife resources; therefore, FWCA does not apply.

4.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretaries of Commerce and/or the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. On November 13, 2009, Reclamation requested concurrence from the USFWS that the Proposed Action may affect, but is not likely to adversely affect the San Joaquin kit fox. On February 2, 2010, USFWS

concurred with Reclamation that the Proposed Action is not likely to adversely affect this species. Therefore, there would be no effect to San Joaquin kit fox or any other listed species or critical habitat.

4.3 National Historic Preservation Act (16 USC § 470 et seq.)

Section 106 of the NHPA requires federal agencies to evaluate the effects of federal undertakings on historical, archaeological and cultural resources. Reclamation entered into consultation with the SHPO on October 29, 2009 seeking their concurrence on a finding of no adverse effect to historic properties pursuant to the regulations at 36 CFR Part 800.5(b). In addition, Reclamation has consulted with Tule River Reservation Indian Tribe requesting any information regarding sites of religious or cultural significance or information on historic properties. Reclamation has received no response to its request from the Tule River Reservation. The SHPO concurred with Reclamations finding of no effect on November 10, 2009. As a result of their concurrence, the Proposed Action would have no impacts to cultural resources.

4.4 Indian Trust Assets

ITA are legal interests in property held in trust by the United States for federally-recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITA can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land; the United States is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the United States. The characterization and application of the United States trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions.

The Proposed Action would not affect ITA because there are none located in the Proposed Project area. The nearest ITA is the Tule River Reservation, which is a16.6 miles east of the Proposed Action area.

4.5 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The MBTA implements various treaties and conventions between the United States, Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture or kill, possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the MBTA, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would deliver LTRID's pre-1914 Tule River water through existing facilities and a new Intertie Canal. This water would be used to irrigate existing agricultural lands which already receive delivered water. This would have no effect on birds protected by the MBTA. Environmental Commitments, as described in Section 2.1.3 and in Appendix D and E, would be implemented under the Proposed Action to avoid take of migratory birds, including burrowing owls and swallows.

4.6 Executive Order 11988 – Floodplain Management and Executive Order 11990-Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands.

The Proposed Action would deliver water through existing facilities to existing irrigated agricultural lands and would not impact wetlands and/or floodplains as there are none present in the areas to be irrigated.

4.7 Clean Air Act (42 USC § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 USC § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

The Proposed Action emissions fall well below the de minimis thresholds of the SJVAPCD; therefore, there are no air quality impacts associated with the Proposed Action and a conformity analysis is not required.

4.8 Clean Water Act (16 USC § 703 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual Corps dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent

and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No pollutants would be discharged into any navigable waters under the Proposed Action so no permits under Section 401 of the CWA are required.

Section 404

Section 404 of the CWA authorizes the Corps to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 USC § 1344). No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA section 404 are not required.

Section 5 List of Preparers and Reviewers

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